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**(54) OVERVOLTAGE
PROTECTIVE CIRCUIT**

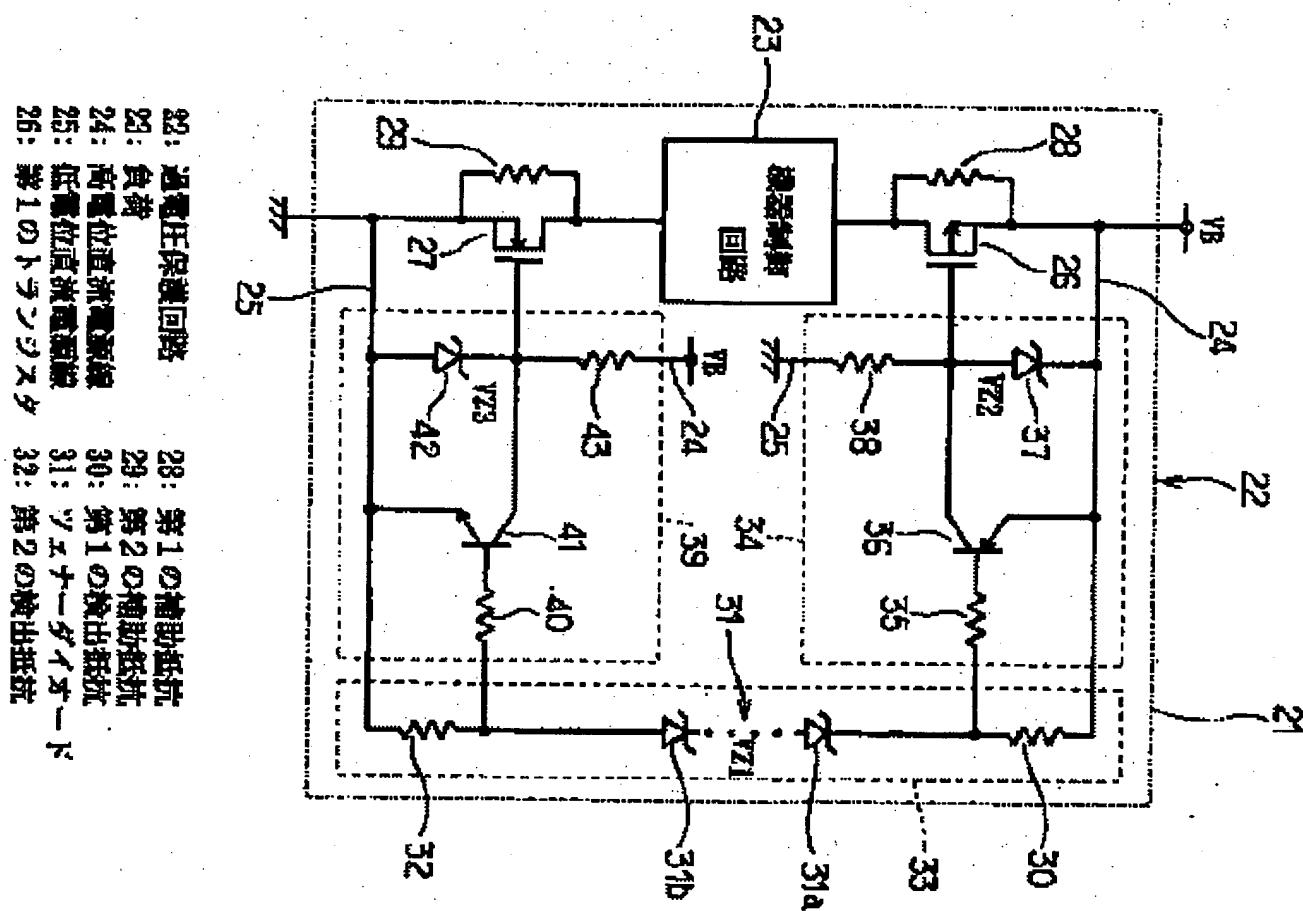
(57) Abstract:

PROBLEM TO BE SOLVED: To attain easy conversion into ICs and protect a load even against overvoltage higher than conventional one without the need for a design change for increasing the withstand voltage of an element.

SOLUTION: When power supply voltage VB between a power line 24

and a ground line 25 is lower than Zener voltage 21 of a Zener diode 31, MOS transistors 26, 27 are turned on and the power supply voltage V_B is applied to an apparatus control circuit 23. When the power supply voltage V_B becomes overvoltage equal to or higher than the Zener voltage 21, the MOS transistors 26, 27 are turned off. The withstand voltage of the MOS transistors 26, 27 and the values of resistors 28, 29 are set evenly respectively, and the MOS transistors 26, 27 in an off state share the power supply voltage V_B equally, thus this overvoltage protection circuit 22 can protect the apparatus control circuit 23 up to overvoltage twice as much as the withstand voltage.

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22: 過電圧保護回路
23: 食器
24: 高電位直流水系
25: 低電位直流水系
26: 第1のトランジスター
28: 第1の補助抵抗
29: 第2の補助抵抗
30: 第1の検出抵抗
31: ソュニアーダイオード
32: 第2の検出抵抗

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